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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,995	11/30/2001	Giovanni Frezza	856063.722	3898
500	7590	11/17/2003	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC			VU, QUANG D	
701 FIFTH AVE			ART UNIT	
SUITE 6300			PAPER NUMBER	
SEATTLE, WA 98104-7092			2811	

DATE MAILED: 11/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/997,995

Applicant(s)

FREZZA, GIOVANNI

Examiner

Quang D Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on amendment filed on 09/15/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19,21,22,24,25 and 27-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19,21,22,24,25 and 27-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 25, 28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,948,991 to Nomura et al.

Regarding claim 25, Nomura et al. (figure 6) teach a packaged electronic device ready for electronic use, comprising:

a semiconductor integrated electronic circuit (130);

a plastic protective package (122) surrounding and supporting the electronic circuit (130), the protective package (122) having a window (127) over a portion of the electronic device such that the electronic device can be activated from outside of the protective package (122); and

an elastic protective layer (132) positioned in the window (127).

It is inherent that the protective layer being structured to enable the electronic device to be activated through the protective layer when the electronic device is in use because a pressure sensitive diaphragm always receives pressure from the top surface of the diaphragm.

a membrane (an upper portion of sensor chip [130]) positioned between the electronic circuit (130) and the protective layer (132), the membrane having a concave surface facing the

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electronic circuit so as to leave a recess (130a) between the concave surface and the electronic circuit.

Regarding claim 28, Nomura et al. teach the window (127) has walls tapering toward the electronic circuit (130).

Regarding claim 30, Nomura et al. teach the electronic circuit (130) includes a pressure sensor.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 19, 21, 24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,948,991 to Nomura et al. in view of US Patent No. 5,897,338 to Kaldenberg.

Regarding claim 19, Nomura et al. (figure 6) teach a packaged electronic device ready for electronic use, comprising:

a semiconductor integrated electronic circuit (130);

a plastic protective package (122) surrounding and supporting the electronic circuit (130), the protective package (122) having a window (127) over a portion of the electronic device (130) such that the electronic device can be at least partially activated from outside of the protective package (122); and

a projecting portion of elastic material (132) projecting from a surface of the electronic device (130) into the window (127).

It is inherent that the projecting portion being structured to enable the electronic device to be activated through the projecting portion when the electronic device is in use because a pressure sensitive diaphragm always receives pressure from the top surface of the diaphragm.

Nomura et al. differ from the claimed invention by not showing the projecting portion is shaped to form a ring on the electronic circuit. However, Kaldenberg (figure 2) teaches the projecting portion is shaped to form a ring (22b) on the chip (12) (column 3, lines 15-21). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Kaldenberg into the device taught by Nomura et al. because it prevents the contact of mold to the electronic device. The combined device shows the projecting portion is shaped to form a ring on the electronic circuit.

Regarding claim 21, Nomura et al. teach the window (127) has tapering walls toward the electronic circuit (130).

Regarding claim 24, Nomura et al. teach the electronic circuit includes a pressure sensor.

Regarding claim 27, Nomura et al. (figure 6) teach a packaged electronic device ready for electronic use, comprising:

a semiconductor integrated electronic circuit (130);

a plastic protective package (122) surrounding and supporting the electronic circuit (130), the protective package (122) having a window (127) over a portion of the electronic device such that the electronic device can be activated from outside of the protective package (122); and

an elastic protective layer (132) positioned in the window (127).

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It is inherent that the protective layer being structured to enable the electronic device to be activated through the protective layer when the electronic device is in use because a pressure sensitive diaphragm always receives pressure from the top surface of the diaphragm.

Nomura et al. differ from the claimed invention by not showing the protective layer is shaped to form a ring on the electronic circuit. However, Kaldenberg (figure 2) teaches the protective layer is shaped to form a ring (22b) on the chip (12) (column 3, lines 15-21).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Kaldenberg into the device taught by Nomura et al. because it prevents the contact of mold to the electronic device. The combined device shows the protective layer is shaped to form a ring on the electronic circuit.

5. Claims 22 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,948,991 to Nomura et al. in view of US Patent No. 6,583,419 to Moy et al.

Regarding claim 22, Nomura et al. (figure 6) teach a packaged electronic device ready for electronic use, comprising:

- a semiconductor integrated electronic circuit (130);

- a plastic protective package (122) surrounding and supporting the electronic circuit (130), the protective package (122) having a window (127) over a portion of the electronic device (130) such that the electronic device can be at least partially activated from outside of the protective package (122); and

- a projecting portion of elastic material (132) projecting from a surface of the electronic device (130) into the window (127).

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It is inherent that the projecting portion being structured to enable the electronic device to be activated through the projecting portion when the electronic device is in use because a pressure sensitive diaphragm always receives pressure from the top surface of the diaphragm.

Nomura et al. differ from the claimed invention by not showing the projecting portion is surrounded by barrier formed on a surface of the electronic circuit. However, Moy et al. (figure 2) teach a barrier (10), which is formed on the sensor (1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Moy et al. into the device taught by Nomura et al. because it protects the sensor chip from the external damage. The combined device shows the projecting portion is surrounded by barrier formed on a surface of the electronic circuit.

Regarding claim 29, Nomura et al. (figure 6) teach a packaged electronic device ready for electronic use, comprising:

- a semiconductor integrated electronic circuit (130);

- a plastic protective package (122) surrounding and supporting the electronic circuit (130), the protective package (122) having a window (127) over a portion of the electronic device such that the electronic device can be activated from outside of the protective package (122); and

- an elastic protective layer (132) positioned in the window (127).

It is inherent that the protective layer being structured to enable the electronic device to be activated through the protective layer when the electronic device is in use because a pressure sensitive diaphragm always receives pressure from the top surface of the diaphragm.

Nomura et al. differ from the claimed invention by not showing the protective layer is surrounded by barrier formed on a surface of the electronic circuit. However, Moy et al. (figure

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2) teach a barrier (10), which is formed on the sensor (1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Moy et al. into the device taught by Nomura et al. because it protects the sensor chip from the external damage. The combined device shows the protective layer is surrounded by barrier formed on a surface of the electronic circuit.

6. Claims 31-34, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,424,249 to Ishibashi in view of US Patent No. 5,948,991 to Nomura et al.

Regarding claim 31, Ishibashi (figure 4) teaches a packaged electronic device ready for electronic use, comprising:

a semiconductor integrated electronic circuit (50) having a top, a bottom, and lateral sides extending between the top and bottom;

a plastic protective package (11) in which the electronic circuit (50) is embedded, the protective package (11) supporting the electronic circuit (50) and contacting the lateral sides of the electronic circuit (50), the protective package (11) having a window over a portion of the electronic circuit (50) such that the electronic circuit (50) can be activated from outside of the protective package (11).

Ishibashi differs from the claimed invention by not showing an elastic protective layer positioned on the circuit. However, Nomura et al. (figure 6) teach an elastic protective layer (132), which is positioned on the sensor chip (130). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Nomura et al. into the device taught by Ishibashi because it protects the sensor chip from the



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external damage. The combined device shows an elastic protective layer positioned on the circuit, the protective layer being structured to enable the electronic device to be activated through the protective layer when the electronic device is in use because a pressure sensitive diaphragm always receives pressure from the top surface of the diaphragm.

Regarding claim 32, Ishibashi teaches the protective package (11) also contacts the top of the electronic circuit (50) adjacent to the window.

Regarding claim 33, Ishibashi teaches the window is defined by tapering walls that taper inwardly toward the electronic circuit (50).

Regarding claim 34, the combined device shows a projecting portion of elastic material (132; Nomura et al.) projecting from the top of the electronic circuit into the window, the projecting portion being structured to enable the electronic circuit to be activated through the projecting portion when the electronic device is in use because a pressure sensitive diaphragm always receives pressure from the top surface of the diaphragm.

Regarding claim 36, Ishibashi teaches the electronic circuit includes a pressure sensor.

Regarding claim 37, Ishibashi differs from the claimed invention by not showing an elastic protective layer positioned on the circuit. However, Nomura et al. (figure 6) teach an elastic protective layer (132), which is positioned on the sensor chip (130). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Nomura et al. into the device taught by Ishibashi because it protects the sensor chip from the external damage. The combined device shows an elastic protective layer positioned on the circuit, the protective layer being structured to enable the electronic

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device to be activated through the protective layer when the electronic device is in use because a pressure sensitive diaphragm always receives pressure from the top surface of the diaphragm.

The combined device shows a membrane (2; Ishibashi) positioned between the electronic circuit (50; Ishibashi) and the protective layer, the membrane (2; Ishibashi) having a concave surface facing the electronic circuit (50; Ishibashi) so as to leave a recess (60; Ishibashi) between the concave surface and the electronic circuit.

7. Claims 35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Nomura et al., and further in view of US Patent No. 6,583,419 to Moy et al.

The disclosures of Ishibashi and Nomura et al. are discussed as applied to claims 31-34, 36 and 37 above.

Regarding claim 35, Ishibashi and Nomura et al. differ from the claimed invention by not showing the projecting portion is surrounded by barrier formed on a surface of the electronic circuit. However, Moy et al. (figure 2) teach a barrier (10), which is formed on the sensor (1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Moy et al. into the device taught by Ishibashi and Nomura et al. because it protects the sensor chip from the external damage. The combined device shows the projecting portion is surrounded by barrier formed on a surface of the electronic circuit.

Regarding claim 39, Ishibashi differs from the claimed invention by not showing an elastic protective layer positioned on the circuit. However, Nomura et al. (figure 6) teach an elastic protective layer (132), which is positioned on the sensor chip (130). Therefore, it would

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have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Nomura et al. into the device taught by Ishibashi because it protects the sensor chip from the external damage. The combined device shows an elastic protective layer positioned on the circuit, the protective layer being structured to enable the electronic device to be activated through the protective layer when the electronic device is in use because a pressure sensitive diaphragm always receives pressure from the top surface of the diaphragm.

Ishibashi and Nomura et al. differ from the claimed invention by not showing the projecting portion is surrounded by barrier formed on a surface of the electronic circuit. However, Moy et al. (figure 2) teach a barrier (10), which is formed on the sensor (1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Moy et al. into the device taught by Ishibashi and Nomura et al. because it protects the sensor chip from the external damage. The combined device shows the projecting portion is surrounded by barrier formed on a surface of the electronic circuit.

8. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Nomura et al., and further in view of US Patent No. 5,897,338 to Kaldenberg.

Regarding claim 38, the disclosures of Ishibashi and Nomura et al. are discussed as applied to claims 31-34, 36 and 37 above.

Ishibashi differs from the claimed invention by not showing an elastic protective layer positioned on the circuit. However, Nomura et al. (figure 6) teach an elastic protective layer (132), which is positioned on the sensor chip (130). Therefore, it would have been obvious to

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one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Nomura et al. into the device taught by Ishibashi because it protects the sensor chip from the external damage. The combined device shows an elastic protective layer positioned on the circuit, the protective layer being structured to enable the electronic device to be activated through the protective layer when the electronic device is in use because a pressure sensitive diaphragm always receives pressure from the top surface of the diaphragm.

Ishibashi and Nomura et al. differ from the claimed invention by not showing the protective layer is shaped to form a ring on the electronic circuit. However, Kaldenberg (figure 2) teaches the protective layer is shaped to form a ring (22b) on the chip (12) (column 3, lines 15-21). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Kaldenberg into the device taught by Ishibashi and Nomura et al. because it prevents the contact of mold to the electronic device. The combined device shows the protective layer is shaped to form a ring on the electronic circuit.

### ***Response to Arguments***

Applicant's arguments with respect to claims 19, 21-22, 24-25 and 27-30 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang D Vu whose telephone number is 703-305-3826. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

qv  
November 13, 2003

A handwritten signature in black ink, appearing to be 'Eddie Lee', written in a cursive style.

EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800